

REMARKS

Claims 1, 4-6 and 8 are now in the application.

Claims 1, 5-6 and 8 were rejected under 35 U.S.C. §103(a) as being obvious over WO 03/029029 A1 to Kanenari et al, as interpreted by the English translation of Kanenari et al, US Patent 7,117,911.

The cited reference does not render obvious claims 1, 5-6 and 8. In particular, Kanenari et al, as appreciated by the Examiner, does not disclose use of a carbon black having an N_2SA of $70\text{ m}^2/\text{g}$ or less. Instead, as pointed out in the office action, Kanenari et al. show the use of Seast 300 with N_2SA of $84\text{ m}^2/\text{g}$. To bridge the gap between the present claims and Kanenari et al, reliance was made upon US patent 6,103,811 to Midorikawa et al. for a disclosure of the claimed carbon black.

Use of the claimed black in the rubber composition would not have been obvious since the cited art fails to suggest the properties achievable by the present invention such as superior run flat durability without decreasing modulus. The improved results achievable by the present invention will be discussed below.

Midorikawa et al. relate to compositions containing a polysiloxane and seem to suggest different carbon black N_2SA values depending upon the composition and embodiment being discussed from a viewpoint of heat generation.

Claim 4 was rejected under 35 U.S.C. §102(b) as being anticipated by or under 35 U.S.C. §103(a) as being obvious over WO 03/029029 A1 to Kanenari, the English translation of Kanenari, US Patent 7,117,911 being relied upon.

Kanenari et al. fail to anticipate and fail to render obvious claim 4. With respect to anticipation, since claim 4 depends from claim 1 and further limits claim 1 and claim 1 is not anticipated, claim 4 cannot be anticipated.

Concerning non-obviousness, claim 4 is patentable for at least those reasons as to why claim 1 is patentable.

Claims 1, 4-6 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,192,790 to McKinstry et al. McKinstry does not render obvious claims 1, 4-6 and 8.

In particular, it is clear from claim 1 now on file, that the essence of the present invention resides in the combined use, in the peroxide-cross-linkable rubber composition having a run flat property, of:

(A) the specified amount of a rubber component of (i) NR and (ii) BR and (iii) optionally SBR, EPM, EPDM, silicone rubber and/or fluororubber

(B) the specified amount of the polar polymer comprising the ethylenically unsaturated nitrile-conjugated diene-based high saturation copolymer rubber and the specified amount of a metal salt of an ethylenically unsaturated carboxylic acid (e.g., HNRB/ZnMA composite) and

(C) carbon black having an N_2SA of $70 \text{ m}^2/\text{g}$ or less.

As a result, superior run flat durability can be obtained, without decreasing the modulus, McKinstry et al. fails to disclose or even remotely suggest these properties. As a result, as shown in the Examples II-1 to II-5 of the present application, the superior run flat durability, without decreasing modulus, can be obtained. This is completely absent in McKinstry (US'790).

McKinstry suggests a compounded elastomeric composition comprising (A) 100 parts by weight of elastomer, (B) 40 to 140 parts by weight of particulate inorganic filler and (C) 0.1 to 7 parts by weight of finely divided particulate basic zinc methacrylate as an adjuvant, whereby the Mooney viscosity of the compounded elastomeric composition is reduced compared to the Mooney viscosity of an otherwise similar composition not containing the basic zinc methacrylate adjuvant (C), wherein:

the elastomer (A) is selected from natural rubber, cis-polybutadiene rubber, butadiene-styrene copolymer rubber, butadiene-acrylonitrile copolymer rubber, isoprene-isobutylene copolymer rubber, and unsaturated terpolymer of ethylene, propylene and a copolymerizable non-conjugated diene, and

the particulate inorganic filler (B) is selected from the group consisting of (i) silica filler (ii) a silicate filler and (iii) calcium carbonate filler.

However, McKinstry neither discloses nor teaches the combined use, in the peroxide-crosslinkable rubber composition having a run flat property according to the present invention, of

(A) the rubber component containing, as an essential constituent, at least 40 parts by weight of BR and 20 – 30 parts by weight of NR

(B) the polar polymer composed of a blend of ethylenically unsaturated nitrile-conjugated diene-based high saturation copolymer rubber and the metal salt of the ethylenically unsaturated carboxylic acid (e.g., HNBR/ZnMA composite) and

(C) the carbon black having an N_2SA of $70 \text{ m}^2/\text{g}$ or less.

The above combination of (A), (B) and (C) according to the present invention is completely absent in McKinstry. McKinstry intends to reduce the Mooney viscosity but is not concerned with obtaining a composition suitable for use in a pneumatic tire having a run flat property, as shown in Examples II-1 to II-5 of Table II-1 of the present application.

Regarding the Examiner's request to provide the experimental result for the carbon black having N_2SA close to $70 \text{ m}^2/\text{g}$ please refer to the attached Declaration under 37 CFR 1.132.

The results can be summarized as follows.

TABLE

No.	Experiment A	Example II-5	Comp. Ex. II-4
N ₂ SA of Carbon Black	56 m ² /g ^{*1}	25 m ² /g	90 m ² /g

Results

50% Modulus (MPa)	6.6	6.4	7.7
Tan δ (100°C)	0.11	0.10	0.20
Run flat durability ^{*2}	125	130	68

^{*1} Carbon black having the most closest N₂SA to 70 m²/g available to the declarant at present

^{*2} No adhesive rubber layer

The mere fact that the cited art may be modified in the manner suggested in the Office Action does not make this modification obvious, unless the cited art suggests the desirability of the modification or there is well reasoned and articulated rationale. This is not present in the present record. The Examiner's attention is kindly directed to *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727; 82 USPQ2d 1385 (2007), *In re Lee* 61 USPQ2d 1430 (Fed. Cir. 2002), *In re Dembieczak et al.* 50 USPQ2d. 1614 (Fed. Cir. 1999), *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), *In re Laskowski*, 10 USPQ2d. 1397 (Fed. Cir. 1989) and *In re Fritch*, 23, USPQ2d. 1780 (Fed. Cir. 1992).

Also, the cited art lacks the necessary direction or incentive to those of ordinary skill in the art to render a rejection under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties attainable by the present invention needed to sustain a rejection under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727; 82 USPQ2d 1385 (2007), *Diversitech Corp. v. Century Steps, Inc.* 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 187 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

Moreover, the properties of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc.*, supra; *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d. 1923 (Fed. Cir. 1990), *In re Antonie*, 195, USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ 519 (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property can be ignored in determining patentability and comparing the claimed invention to the cited art. Along these lines, see *In re Papesch*, supra, *In re Burt et al.*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In view of the above amendment, applicant believes the pending application is in condition for allowance.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

A one-month extension of time fee is due with this response. The Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 22-0185, under Order No. 21713-00075-US1 from which the undersigned is authorized to draw.

Dated: October 19, 2007

Respectfully submitted,

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